

Appl. No. : 10/619,842 Confirmation No. 7619
Applicants : Strom W. Smith
Filed : July 15, 2003
TC/A.U. : 1764
Examiner : Thanh P. Duong
Docket No. : 141.015
Customer No. : 9809

AMENDMENTS TO THE CLAIMS

What is claimed is:

Claim 1 (Currently Amended): A sealing device for a sulfur trap of the type comprising an upper chamber for receiving liquid sulfur and process gas and a lower chamber for receiving liquid sulfur, said device comprising:

an opening between said upper chamber and said lower chamber;

a hollow cylinder extending upwardly from said opening into said upper chamber;

said cylinder having an upper edge;

a float;

a counterweight attached to said float;

said counterweight constructed to sealingly engage said upper edge in a float first position; and

said float and said counterweight having a combined average density less than the density of molten sulfur;

said float moveable between said float first position and a float floating position;

and

said float laterally moveable in said float floating position.

Claim 2 (Currently Amended): The sealing device of claim 1, further comprising:

~~said float moveable between said float first position and a float floating position;~~

said counterweight supported on said cylinder upper edge in said float first position; and

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said counterweight removed from said cylinder upper edge in said float floating position.

Claim 3 (Original): The sealing device of claim 1, further comprising:

said counterweight having a beveled peripheral surface;

said cylinder upper edge having a beveled upper edge surface; and

said counterweight beveled peripheral surface and said beveled upper edge surface sealingly engaged in said float first position.

Claim 4 (Original): The sealing device of claim 3, further comprising:

said counterweight including a lower extension below said beveled peripheral surface;

said lower extension extending inside said hollow cylinder in said float first position.

Claim 5 (Original): The sealing device of claim 1, further comprising:

said counterweight having a lower surface; and

said counterweight lower surface at least partially arcuate.

Claim 6 (Original): The sealing device of claim 1, further comprising:

a cleaning rod attached to said counterweight; and

said cleaning rod extending downwardly into said hollow cylinder.

Claim 7 (Original): The sealing device of claim 6, further comprising:

said hollow cylinder having an interior surface;

said cleaning rod so sized and constructed to engage said interior surface upon relative movement of said float in relation to said cylinder.

Claim 8 (Original): The sealing device of claim 1, further comprising:

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said counterweight having a beveled peripheral surface;

said counterweight including a lower extension below said beveled peripheral surface;

a cleaning rod attached to said lower extension; and

said lower extension extending inside said hollow cylinder.

Claim 9 (Currently Amended): A sealing device for a sulfur trap of the type comprising an upper chamber for receiving liquid sulfur and process gas and a lower chamber for receiving liquid sulfur, said device comprising:

an opening between said upper chamber and said lower chamber;

a hollow cylinder extending upwardly from said opening into said upper chamber;

said cylinder having an upper edge;

a float;

said float consisting of a generally spherical structure with a counterweight attached to
~~said float;~~

said float and said counterweight having a combined average density less than the density of molten sulfur;

said counterweight having a beveled peripheral surface and a lower surface;

said cylinder upper edge having a beveled upper edge surface;

said counterweight beveled peripheral surface and said beveled upper edge surface sealingly engaged in a float first position; and

said counterweight lower surface at least partially arcuate.

Claim 10 (Original): The sealing device of claim 9, further comprising:

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said float moveable between said float first position and a float floating position;

said counterweight supported on said cylinder upper edge in said float first position; and

said counterweight removed from said cylinder upper edge in said float floating position.

Claim 11 (Original): The sealing device of claim 9, further comprising:

said lower surface below said beveled peripheral surface;

said lower surface extending inside said cavity in said float first position.

Claim 12 (Original): The sealing device of claim 9, further comprising:

a cleaning rod attached to said counterweight; and

said cleaning rod extending downwardly into said cylinder.

Claim 13 (Original): The sealing device of claim 12, further comprising:

said hollow cylinder having an interior surface;

said cleaning rod so sized and constructed to engage said interior surface upon relative movement of said float in relation to said cylinder.

Claim 14 (Currently Amended): A sealing device for a sulfur trap of the type comprising an upper chamber receiving liquid sulfur and process gas and a lower chamber for receiving liquid sulfur, said device comprising:

an opening between said upper chamber and said lower chamber;

a hollow cylinder extending upwardly from said opening into said upper chamber;

said cylinder having an upper edge;

a float;

a counterweight attached to said float;

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said float and said counterweight having a combined average density less than the density of molten sulfur;

said counterweight and said cylinder upper edge sealingly engaged in a first float position;

a plurality of rods within said chamber;

said float moveable between said float first position and a float floating position;

and

said float laterally restrained in said float floating position by said plurality of rods.

~~said counterweight having a lower surface;~~

~~said counterweight lower surface at least partially arcuate;~~

~~a cleaning rod attached to said lower surface; and~~

~~said cleaning rod extending downwardly into said cylinder.~~

Claim 15 (Currently Amended): The sealing device of claim 14, further comprising:

said counterweight having a lower surface;

said counterweight lower surface at least partially arcuate;

a cleaning rod attached to said lower surface;

said cleaning rod extending downwardly into said cylinder;

~~said float moveable between said float first position and a float floating position;~~

said float further laterally restrained in said floating position by said cleaning

rod;

said counterweight supported on said cylinder upper edge in said float first position; and

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said counterweight removed from said cylinder upper edge in said float floating position.

Claim 16 (Original): The sealing device of claim 14, further comprising:

said counterweight having a beveled peripheral surface;

said cylinder upper edge having a beveled upper edge surface; and

said counterweight beveled peripheral surface and said beveled upper edge surface sealingly engaged in a float first position.

Claim 17 (Original): The sealing device of claim 16, further comprising:

said counterweight including a lower extension below said beveled outer surface;

said lower extension extending inside said cavity in said float first position.

Claim 18 (Original): The sealing device of claim 14, further comprising:

said hollow cylinder having an interior surface;

said cleaning rod so sized and constructed to engage said interior surface upon relative movement of said float in relation to said cylinder.